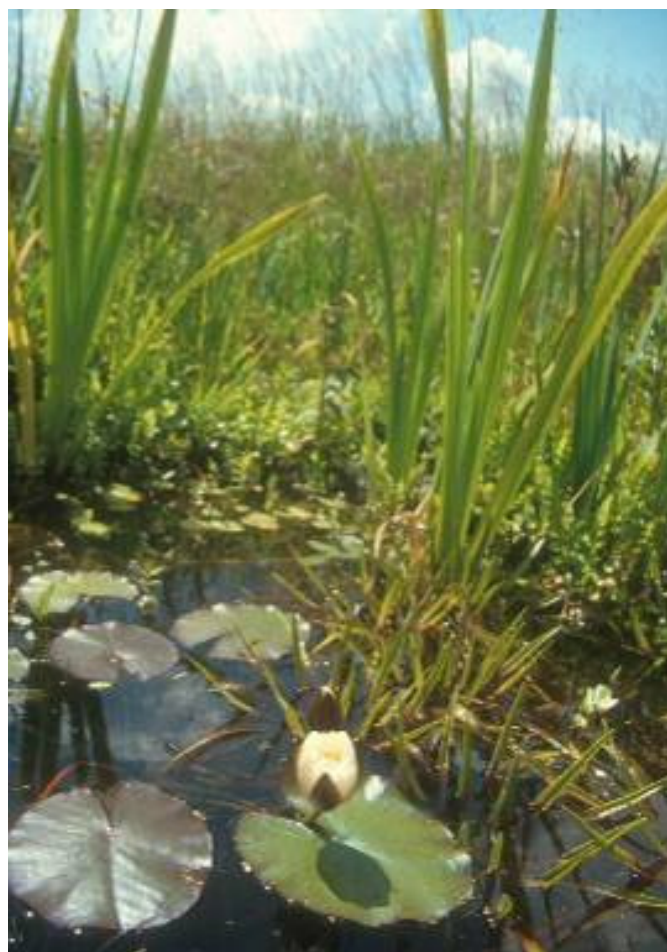


Controlling new zealand pygmyweed (*Crassula helmsii*)

Dispersal of the non-native plant *Crassula helmsii* results from a wide range of human activities associated with water – water gardening, fishing, environmental improvement (fragments on machines moved from infected pond to uninfected) and is often offered for sale with other water plants. Worst of all, a fragment as small as a single node on a 10mm stem, can be transported with mud or by wildlife between ponds.

The plant will grow around the damp margins of ponds and in water up to 3m deep. It forms very dense stands. It first appears as a small light green tussock on the sediment. These tussocks grow and spread rapidly to form a dense mat of vegetation. The dense mat out-competes all other aquatic vegetation, eliminates native flora and creates a poorer ecosystem for invertebrates, fish and amphibians. Severe oxygen depletion can occur below dense growths of this plant. Its three growth forms (terrestrial, emergent ie half in and half out of water, and submerged) grow throughout the year and there is no dormant period. To the untrained eye it can look (worryingly) like a native submerged starwort (*Callitriche spp*) when first apparent in the pond.

“This plant has not, so far, been eliminated from a natural site once it has dominated despite repeated general and spot treatments with herbicides” (Natural England). However, some experiences online from conservation organisations’ attempts at controlling the plant in ponds and its lack of dormant period makes control in the autumn (when other plants die down) or late winter (before they have emerged) an option without killing everything else. *Crassula* needs to be hit hard at the first signs of re-growth as only then will the plant be weakened. However, in most Suffolk pond situations, the reality is that, once *Crassula* has a foothold, it is very difficult to eradicate the plant – controlling it and living with it is probably the only realistic solution.



Garden pond

1. Chemical control – probably the only option worth considering. *Crassula* is only really susceptible to herbicide formulations containing diquat and glyphosate. Diquat (marketed as Reglone) has been withdrawn from aquatic use by the EU, but the products are the subject of appeals to reinstate their use on this species. In place of this, use the following:

- on submerged *Crassula* – treat with dichlobenil (marketed as Midstream GSR) applied in Feb/March when the plant is still completely submerged. Further treatment may be needed with a minimum interval of three weeks between each treatment (check product label).

- on dry *Crassula* on terrestrial and dry parts of emergent stands – and worth doing in a drought year on ponds – treat dry parts of plant only with a formulation of glyphosate approved for use in aquatic situations, applied from April – end November, when the majority of the plant is emergent (chemical translocated to roots). However, to avoid killing other non-target plants apply as late or as early as possible in the year (becomes less effective below 12C and ineffective below 8C). Repeat if required. Killing some non-target plants may be a worthwhile price to pay for removal of *Crassula*.

Sites should be monitored regularly at intervals of 3 – 6 months for at least 5 years following any apparent elimination. Treated and adjacent areas must be carefully examined for developing shoots or small buried rhizomes.

2. Mechanical/manual control – is a short term solution that may be appropriate in an accessible pond situation. To minimise harm to breeding newts, invertebrates and other wildlife, sensibly, pygmyweed should only ever be removed in late autumn, and then ideally this should be left on the side of a pond for a day or two to allow creatures to crawl back into the pond and then composted off site as it can become a terrestrial weed if allowed to take root on the pond edge! Avoid mechanical control in on-stream ponds as it can make the situation worse – the fragments

that are produced by cutting can regrow and spread the infestation downstream or re-infest the treated area.

Other important management issues to consider to reduce the spread of *Crassula*

- Avoid pond dipping in ponds with *Crassula* as tiny fragments of the weed can be transported to other ponds nearby in the net.
- Take care to check that any machinery is clean before embarking on pond restoration projects.
- Clean down any excavator buckets before digger machinery from a *Crassula*-infested site.
- Do not 'give' pond plants away to new ponds or accept gifts from other ponds unless you categorically know there is no *Crassula* in the ponds.
- Avoid garden centre plants as *Crassula* infestations can start as a tiny fragment accidentally contained within another aquatic plant pot. Also garden centres sell other invasive non-native species such as parrot's feather, which can be similarly problematic in ponds.

**For further advice, contact Suffolk Wildlife Trust on:
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